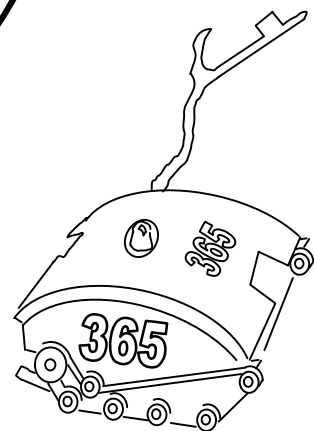
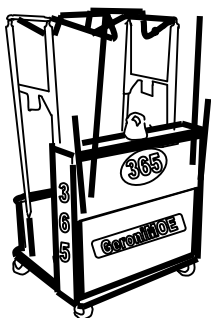
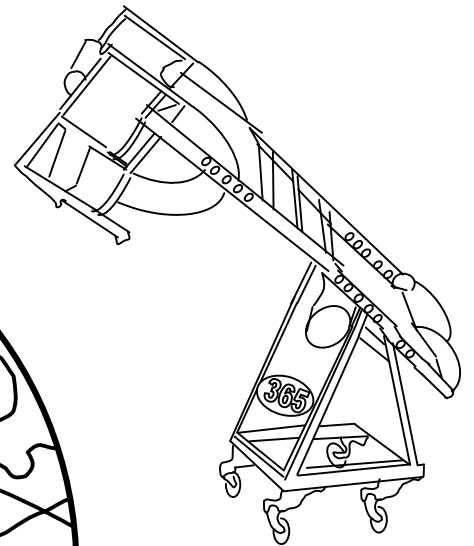
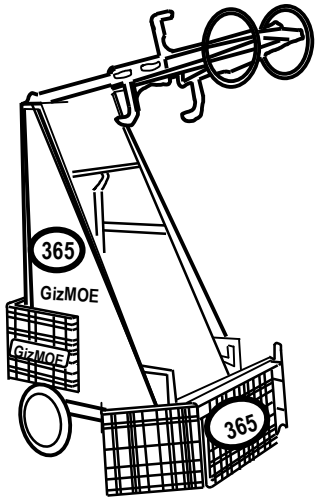
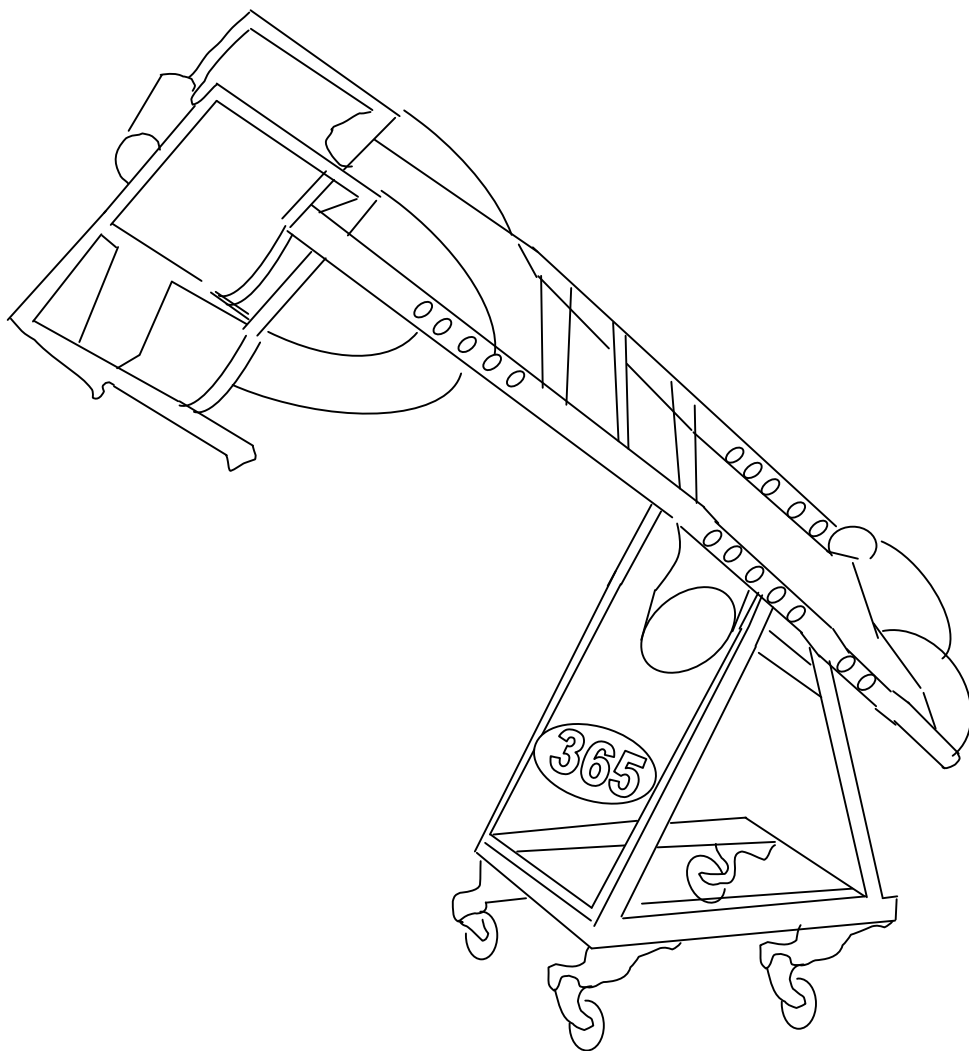


# Around the World

## with MOE

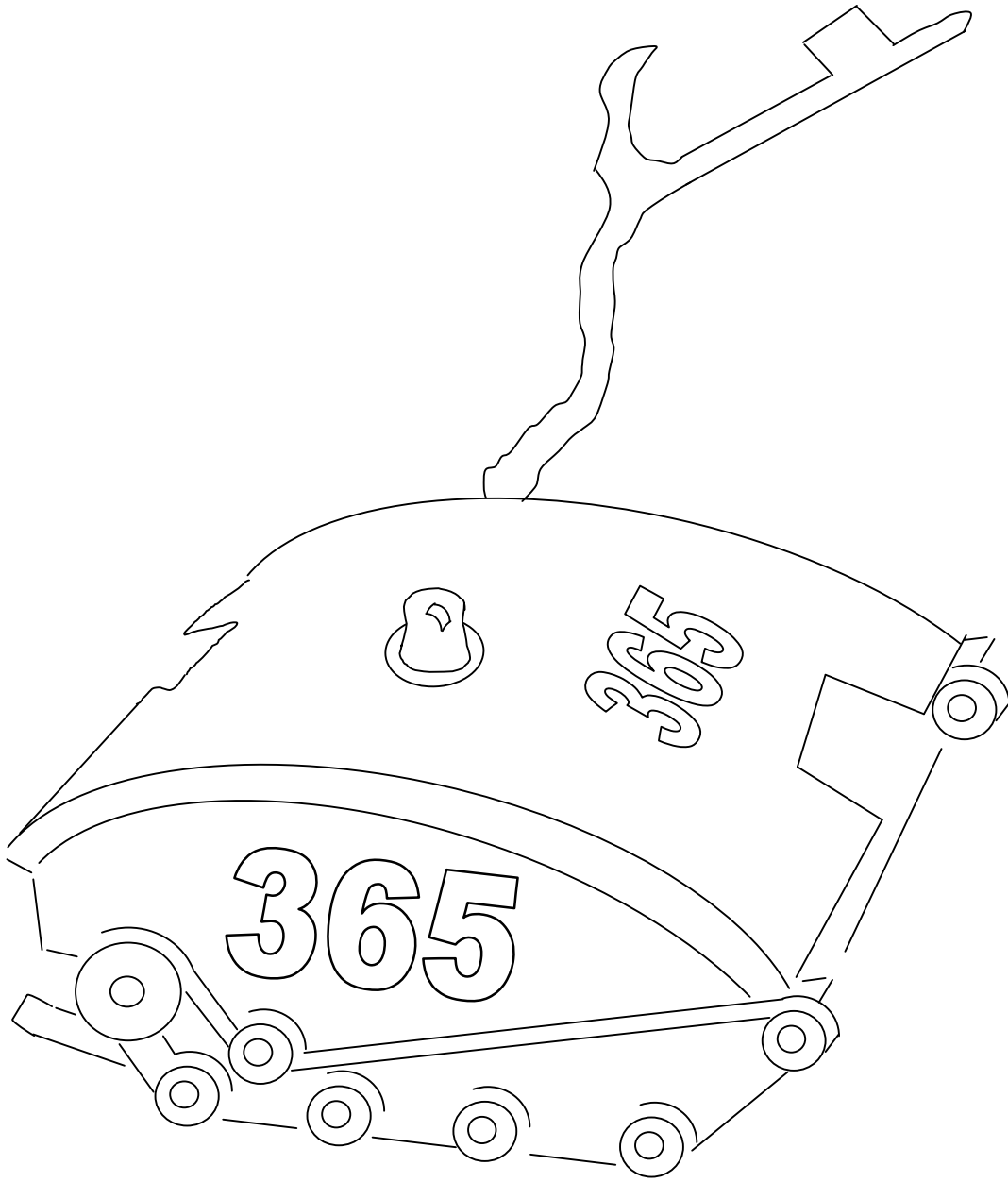


My name is Big MOE. I was built in the year 2000. I can pick up balls and put them in a basket.



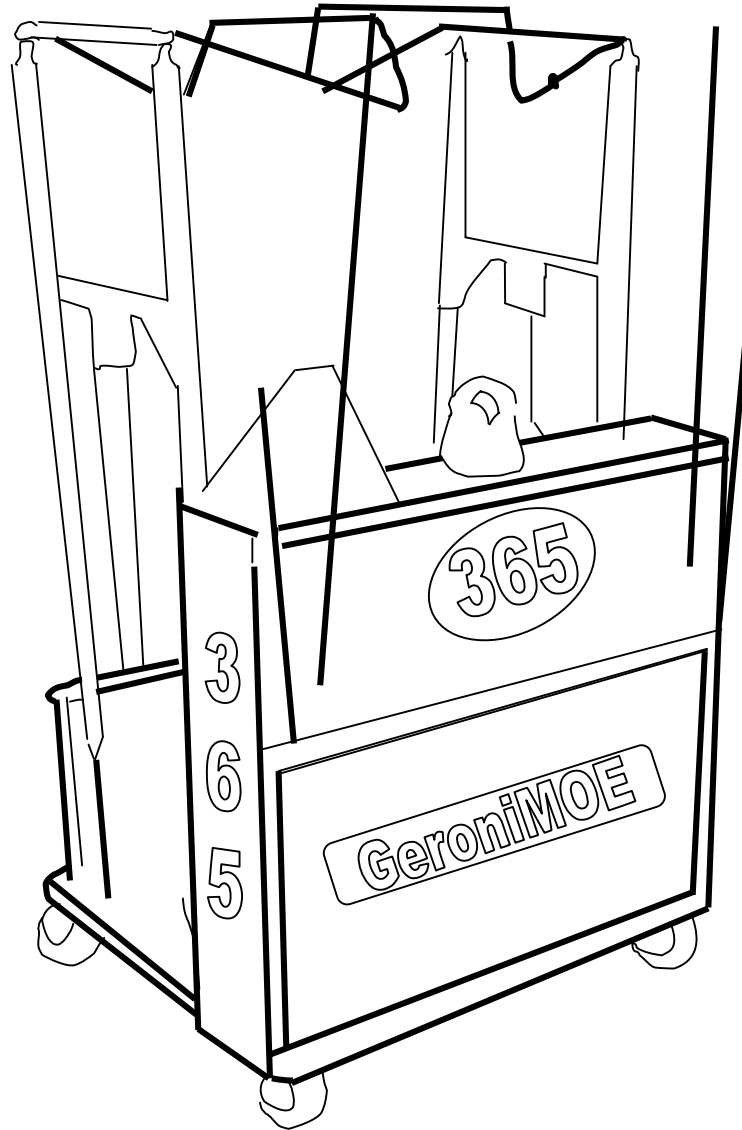
Big MOE

I'm Little MOE. I was built in 2001. I can balance on a teeter-totter.



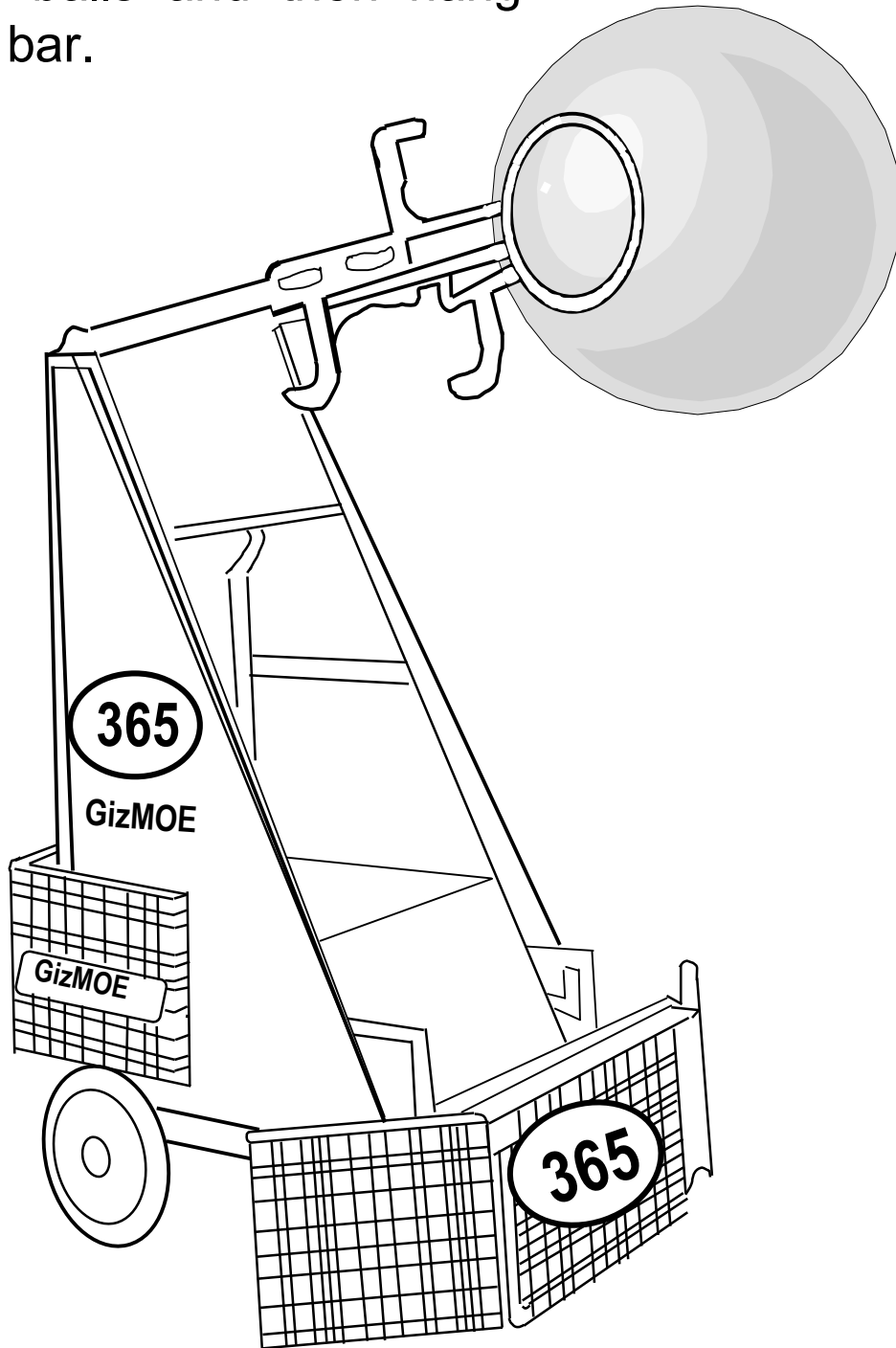
Little MOE

Hi! I'm GeroniMOE. I was built in 2003. I can stack boxes up to eleven boxes high!



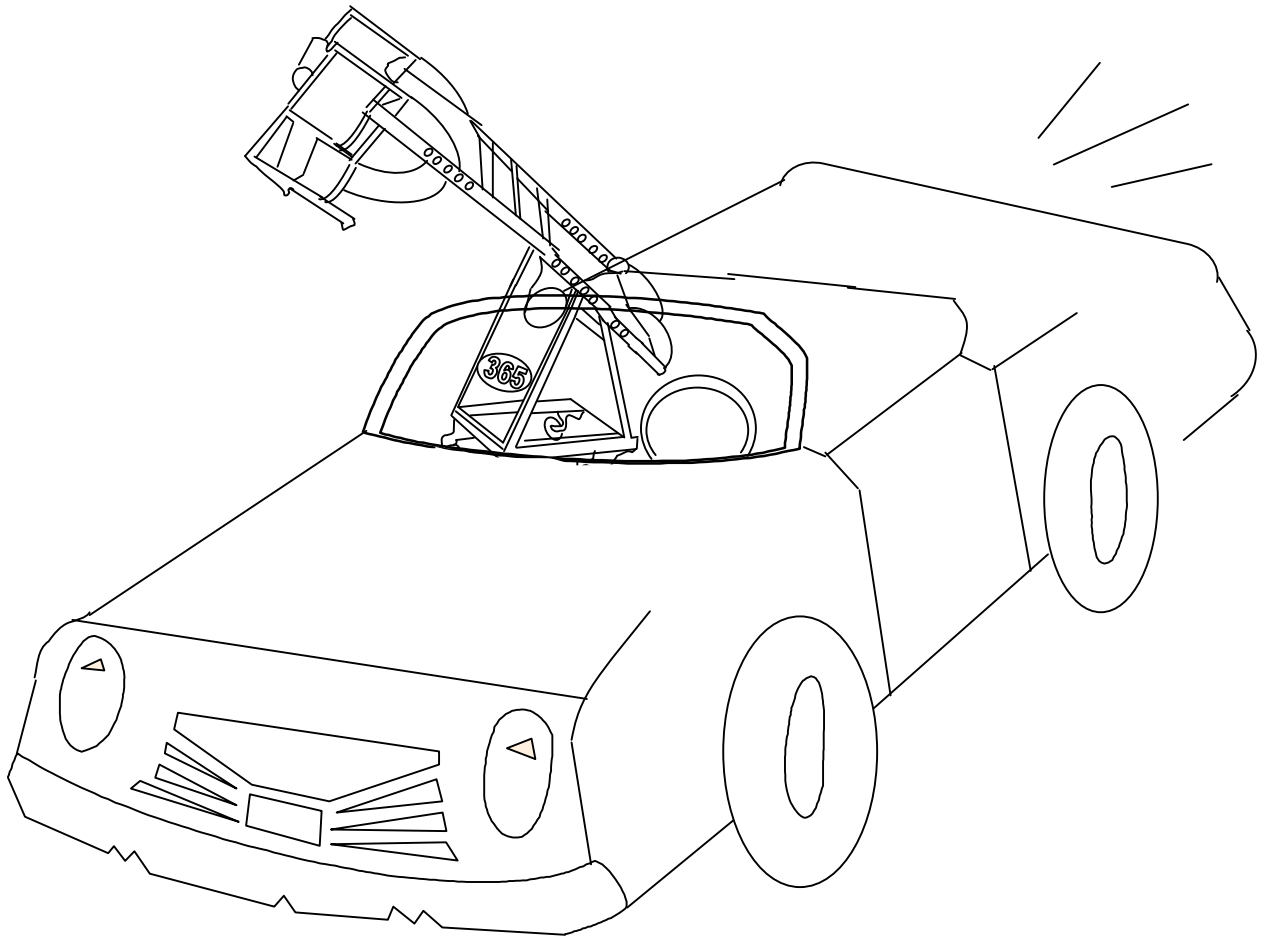
# GeroniMOE

And my name is GizMOE. I was built in 2004. I can pick up big balls and then hang from a bar.

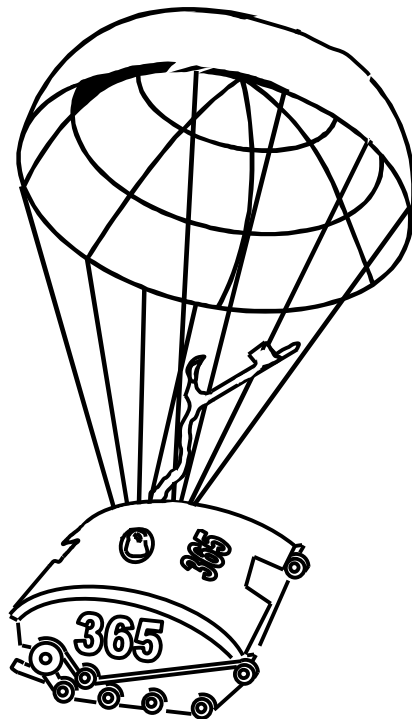
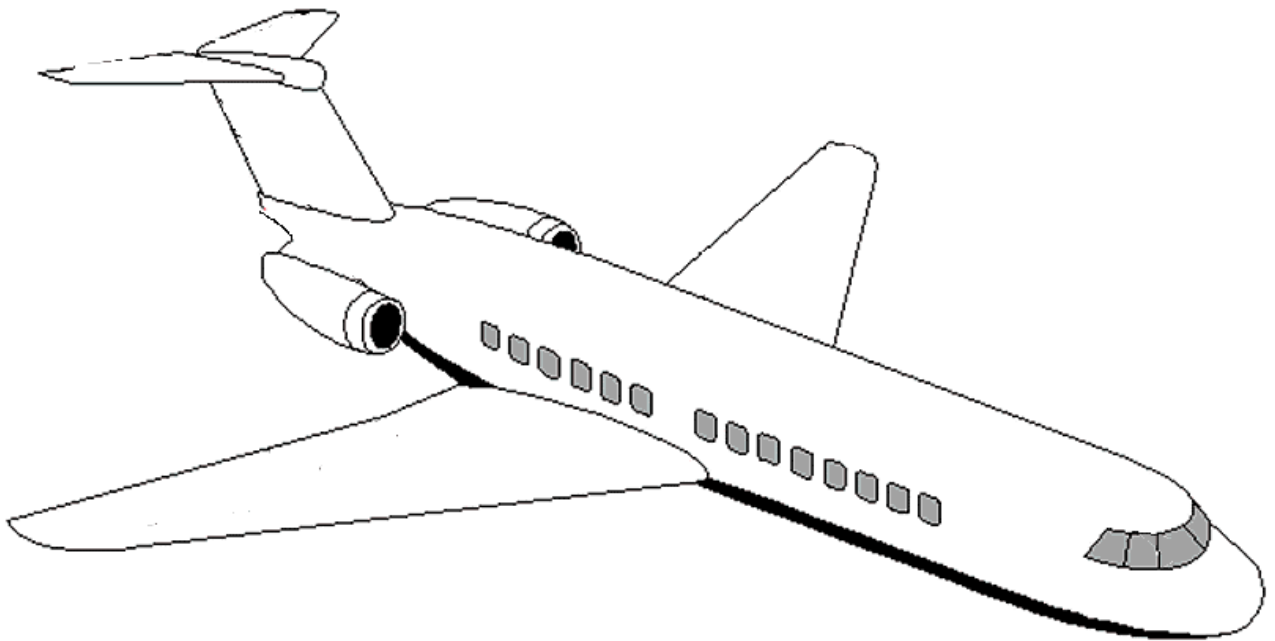


# GizMOE

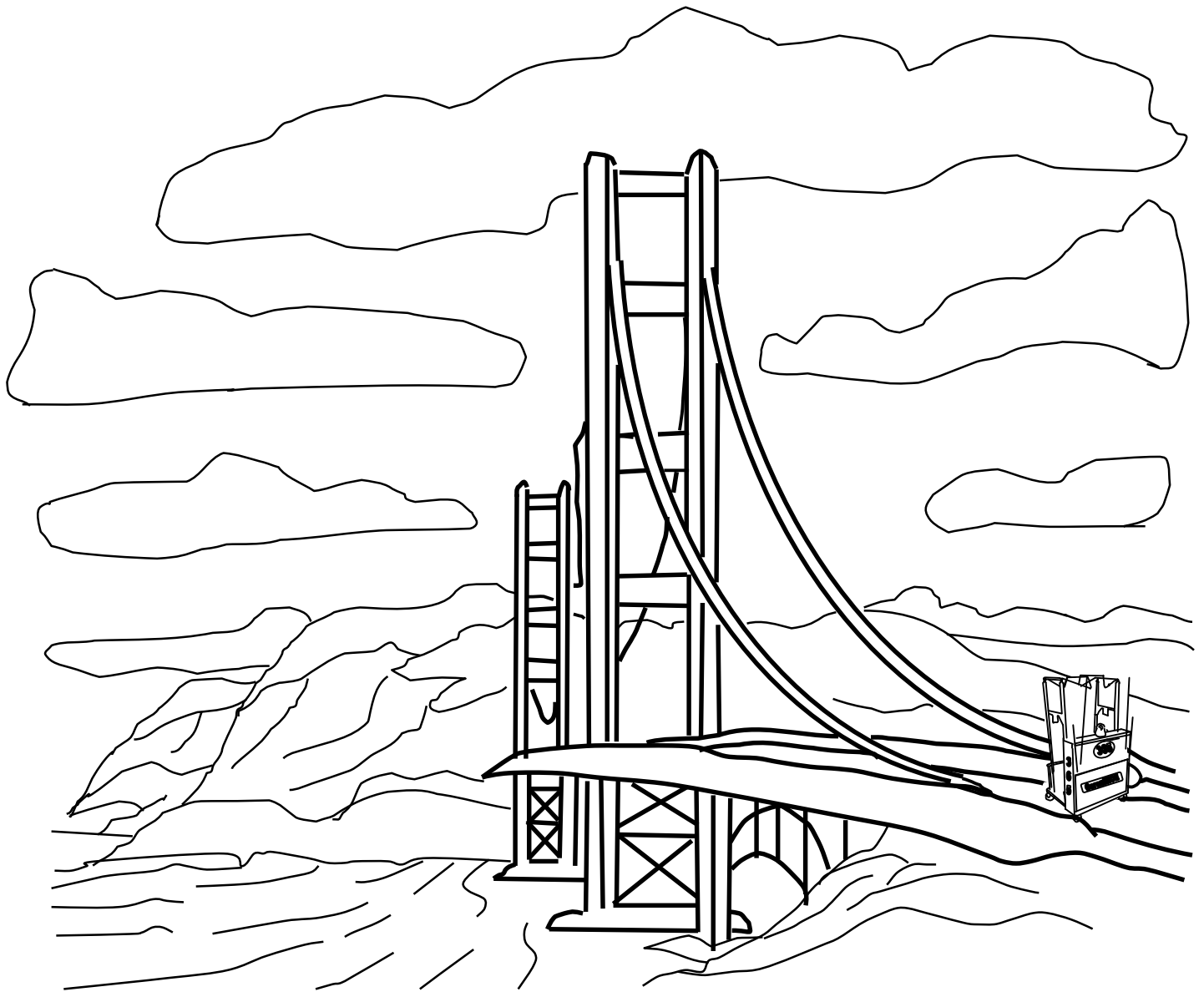
We're on a trip around the world. We're looking for miracles of engineering.



Would you like to come along?  
Let's go!



The Golden Gate Bridge is a miracle of engineering. It crosses the Golden Gate Straits - a beautiful entrance from the Pacific Ocean to the San Francisco Bay in California. The water there is so deep and fast and cold that no one thought a bridge could be built to cross it. Construction began in 1933. At that time, it was the longest suspension bridge ever built. Today it is still known for its beauty and strength.

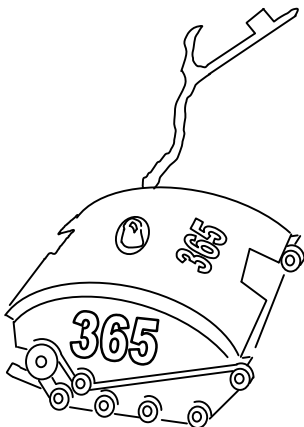
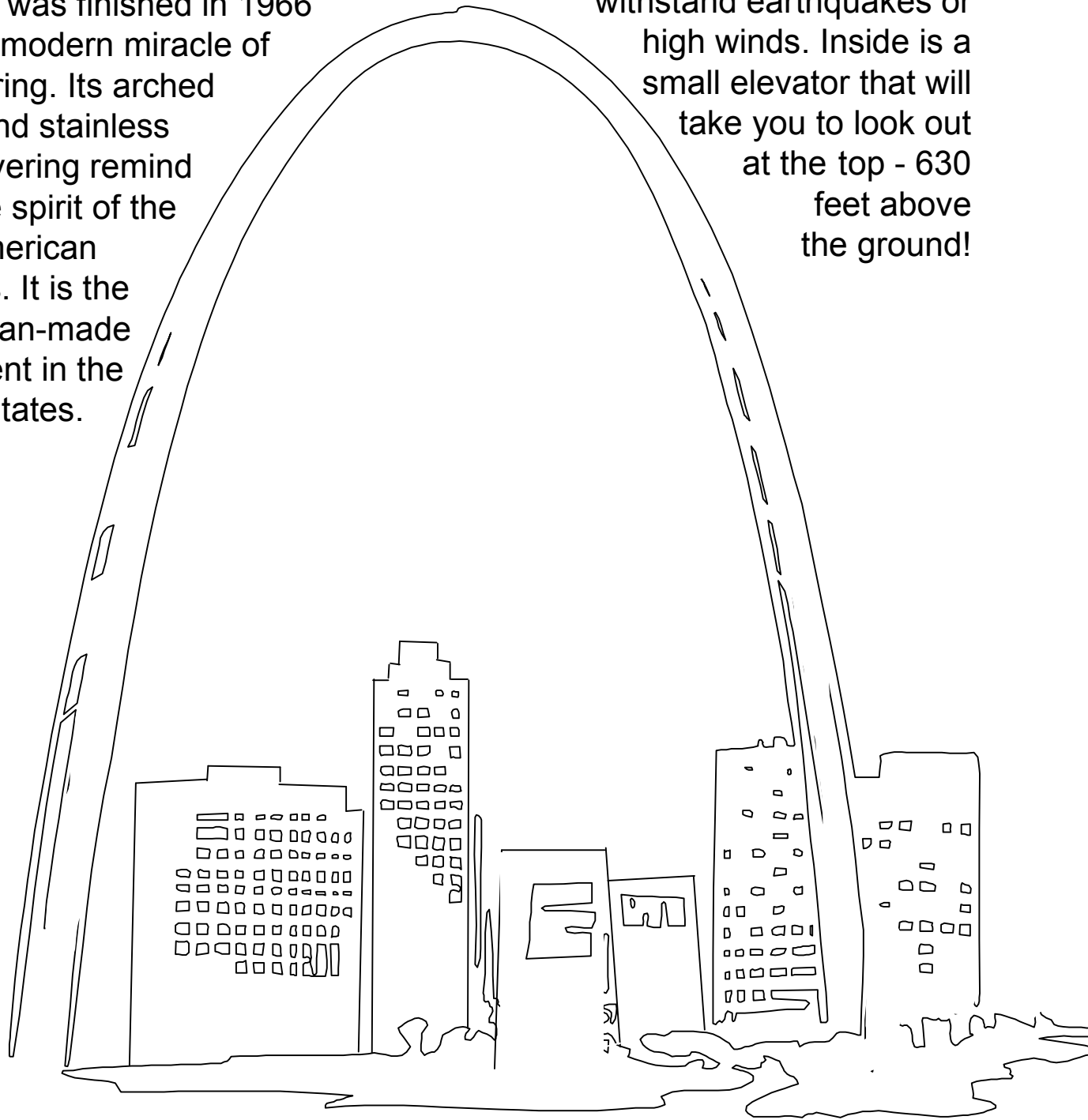


# Golden Gate Bridge



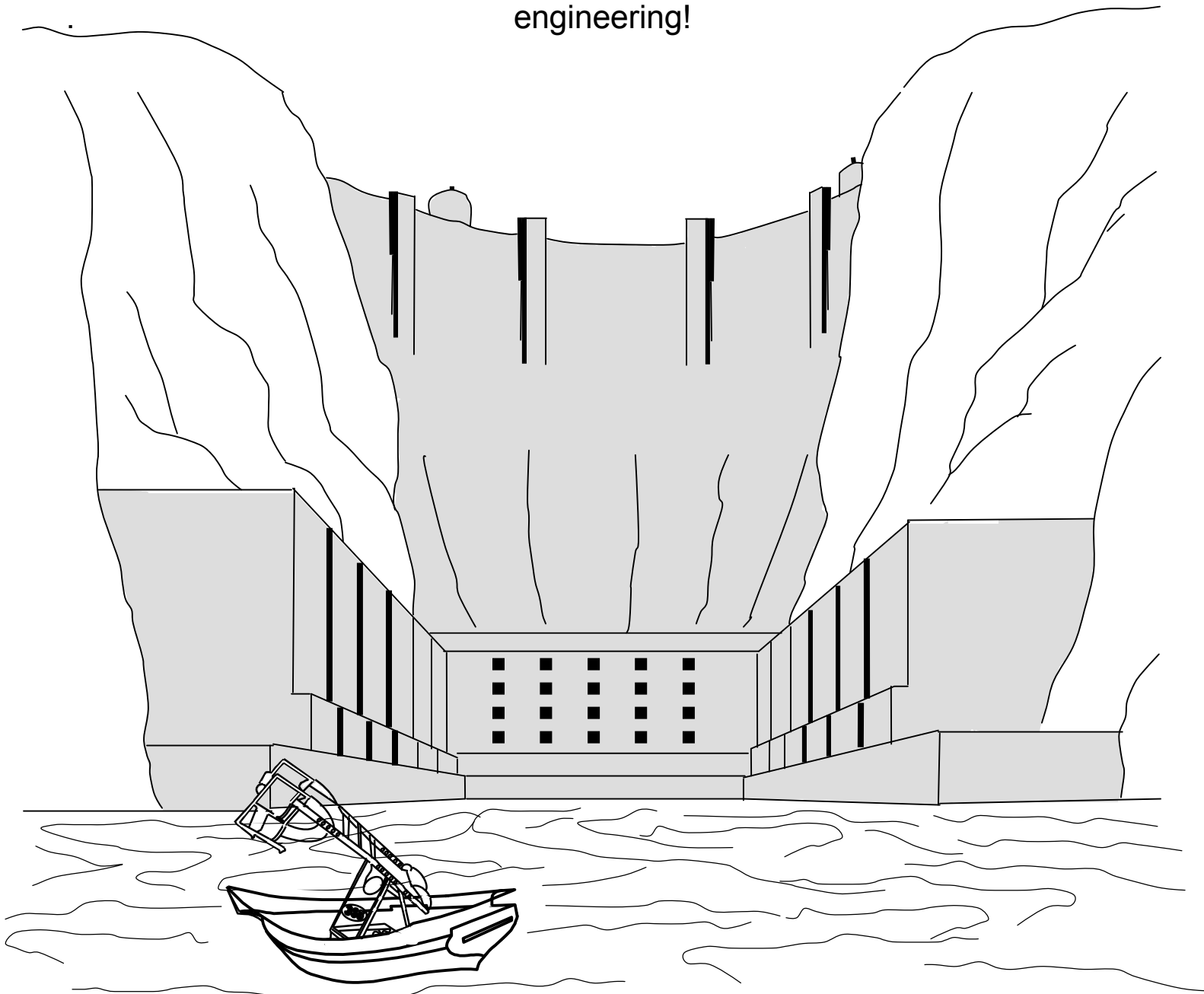
The Gateway Arch in St. Louis, Missouri was finished in 1966 and is a modern miracle of engineering. Its arched shape and stainless steel covering remind us of the spirit of the early American pioneers. It is the tallest man-made monument in the United States.

The arch is strong enough to withstand earthquakes or high winds. Inside is a small elevator that will take you to look out at the top - 630 feet above the ground!



# Gateway Arch

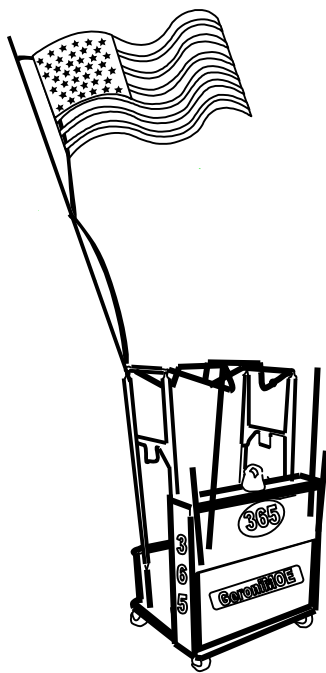
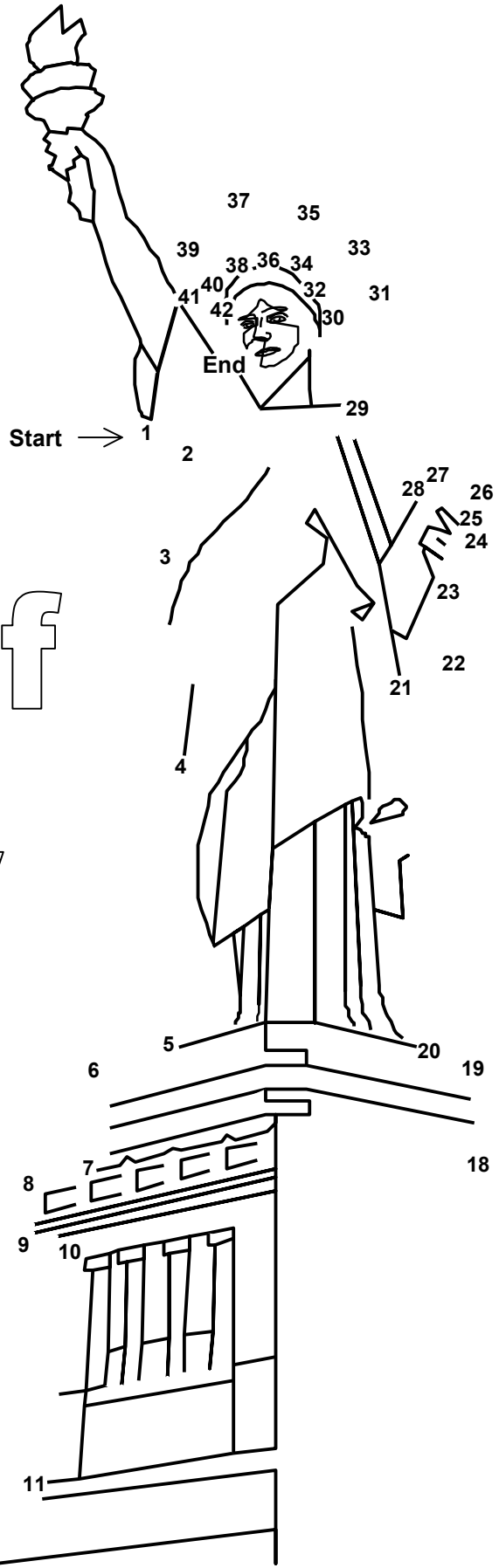
When the Hoover Dam was built in 1935, it was the largest dam in the world. It holds back the mighty Colorado River and creates Lake Mead, the largest man-made lake in the United States. Before the dam was built, the river would flood the lands of the Southwest every spring, then dry up to a trickle every summer. Now the Hoover Dam prevents floods and provides water and electricity to 18 million people in three states. It provides water for farmland in the U.S. and Mexico. It is truly a miracle of engineering!



# Hoover Dam

This is the Statue of Liberty in New York City. She contains 179,000 pounds of copper that came from a mine in Norway

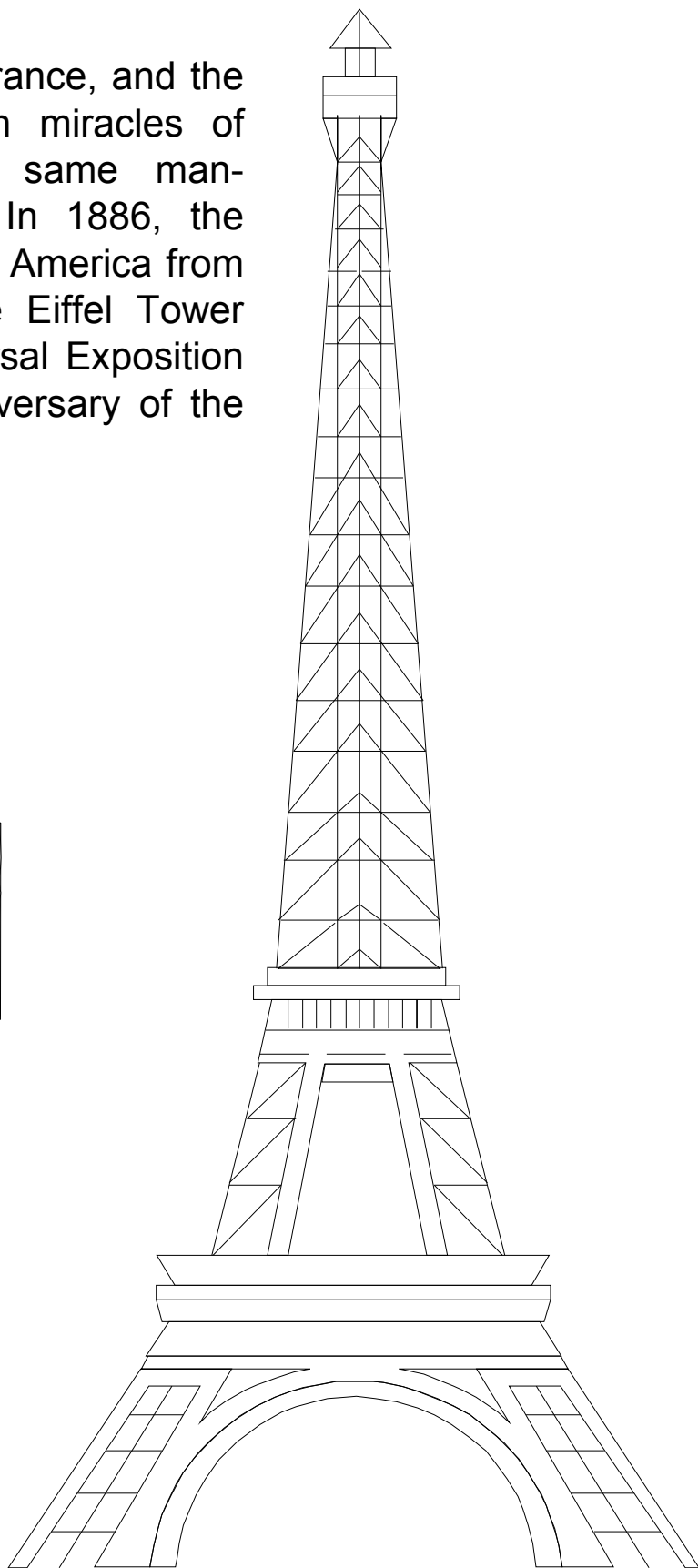
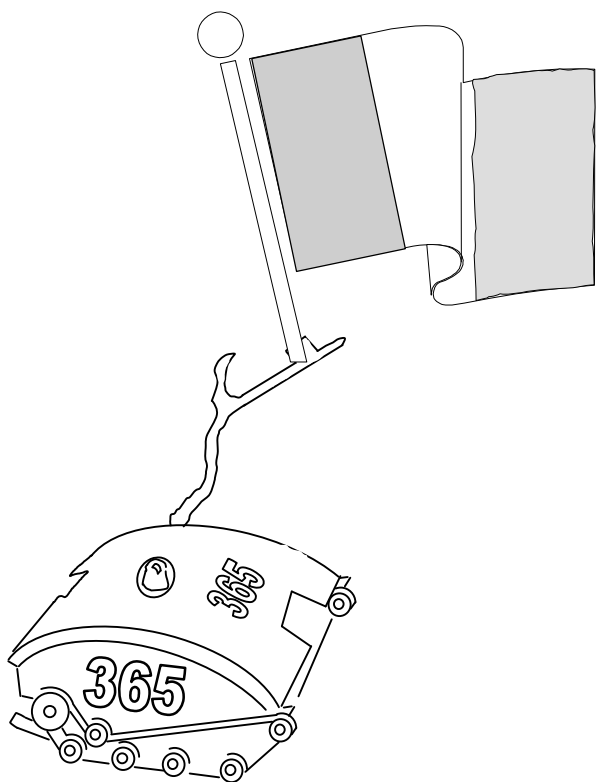
# Statue of Liberty



12

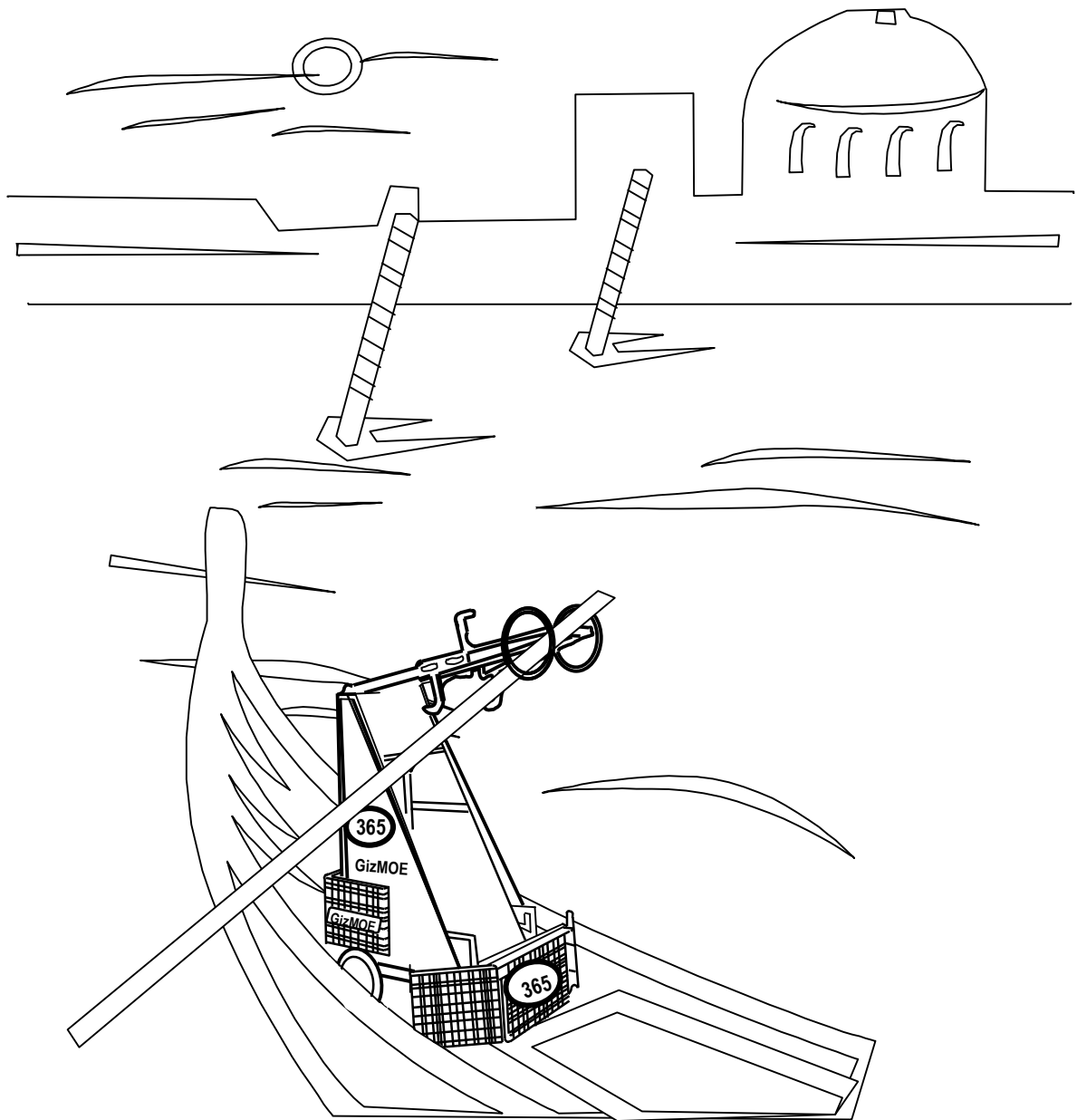
13

The Eiffel Tower in Paris, France, and the Statue of Liberty are both miracles of engineering built by the same man-Alexandre Gustave Eiffel. In 1886, the statue was a birthday gift to America from the people of France. The Eiffel Tower was a symbol of the Universal Exposition in 1889 and the 100<sup>th</sup> anniversary of the French Revolution.



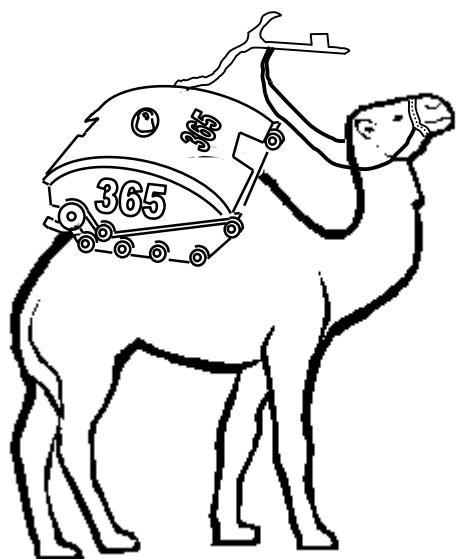
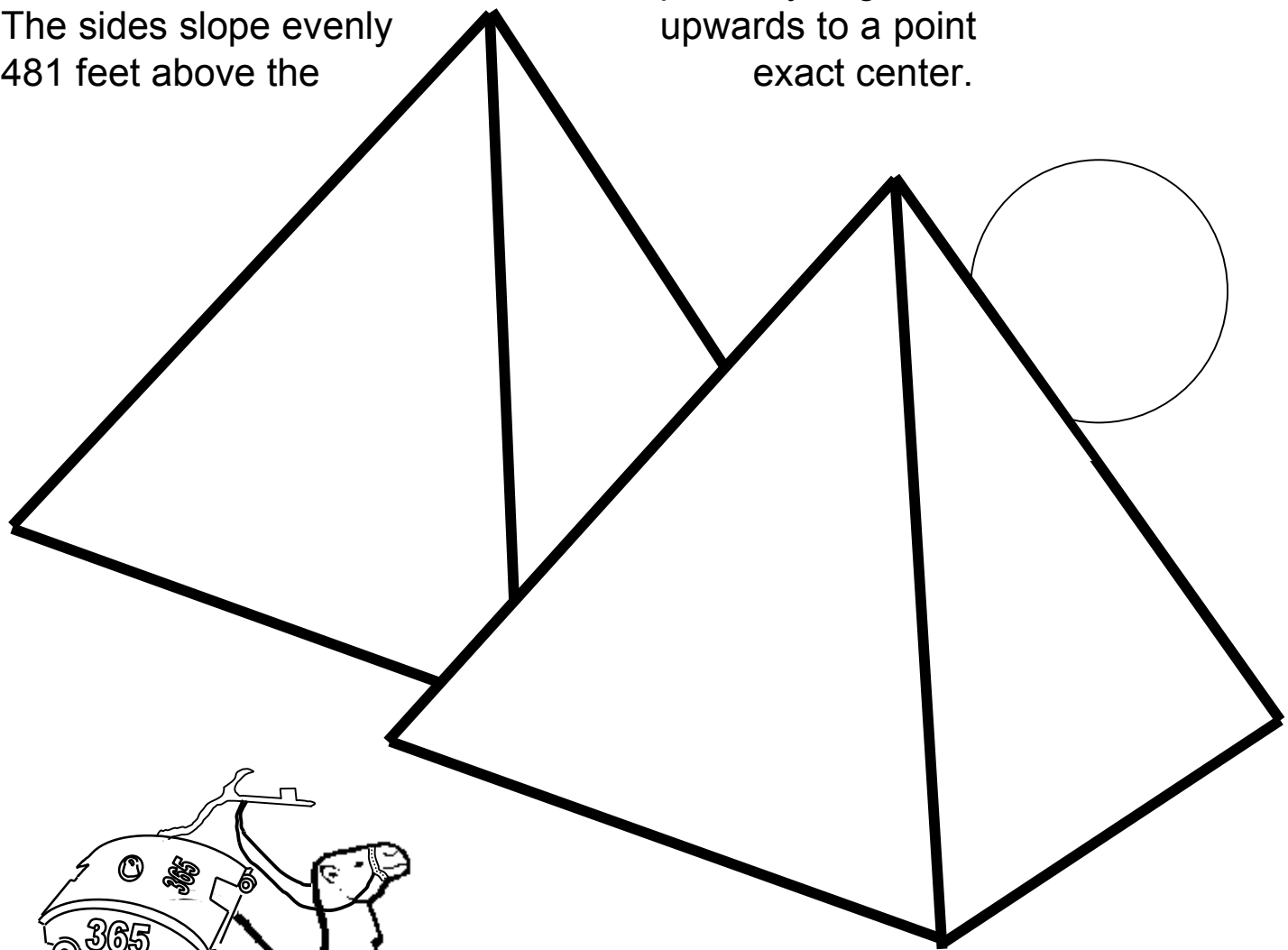
# Eiffel Tower

The city of Venice, Italy, is a miracle of engineering. It was built on over 100 tiny islands and mud banks in the center of a lagoon. Instead of streets and sidewalks, the city's neighborhoods connect to each other by waterways and bridges. The Grand Canal is bordered by over 200 palaces and 10 churches. Some of them are 900 years old!



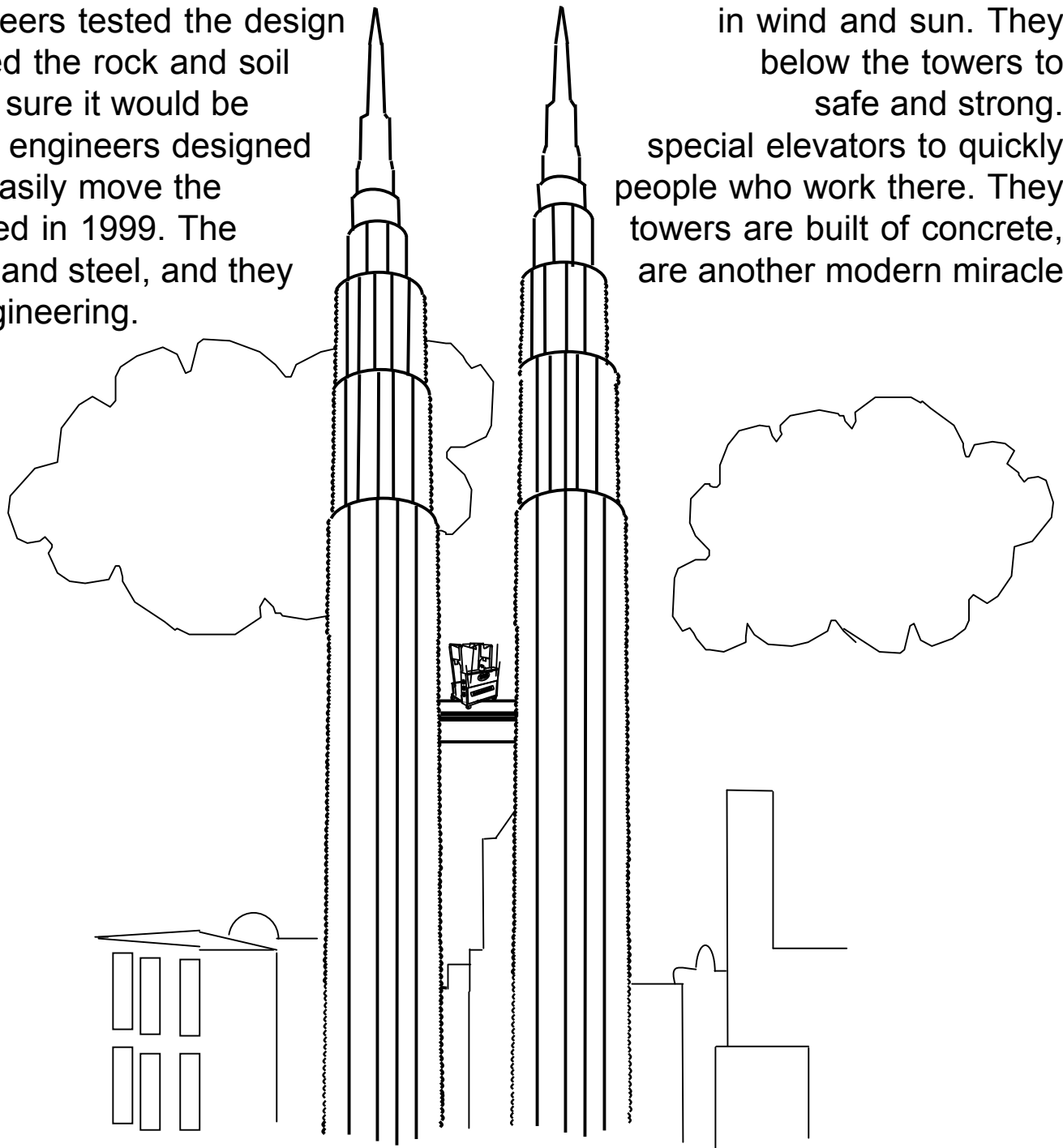
# Venice, Italy

More than 4000 years ago, these miracles of engineering were built. They are the pyramids at Giza in Egypt. As many as 20,000 to 30,000 men and women worked for 80 years to build them. Huge blocks of stone were cut from the earth and floated on rafts to the work place. Then people pushed them up ramps and into place. The largest, or Great Pyramid, has 2.3 million stone blocks as large as today's cars and trucks. Still, the workers were able to fit them perfectly together. The sides slope evenly upwards to a point exact center. The sides slope evenly 481 feet above the exact center.



# The Pyramids of Egypt

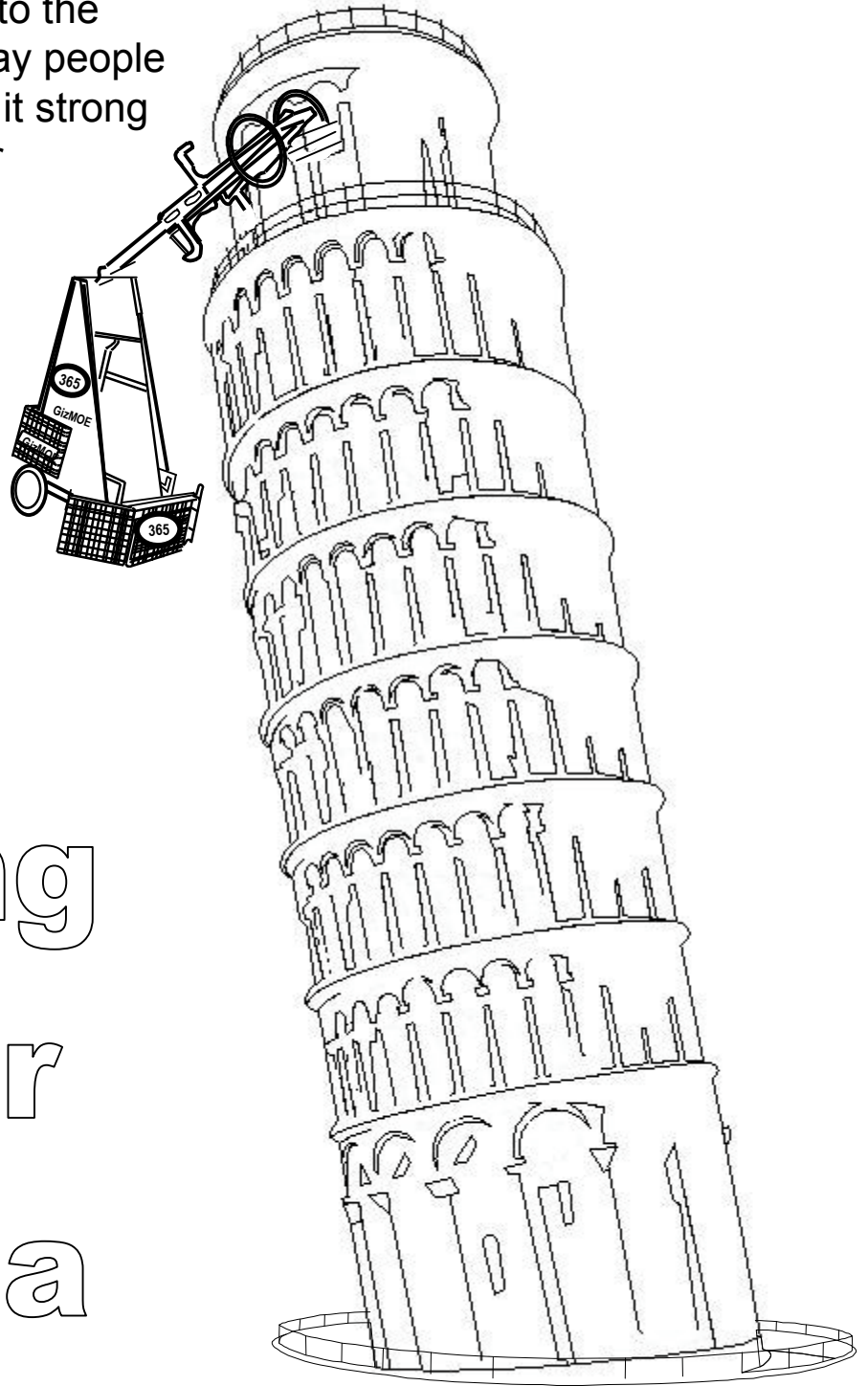
At 1483 feet high, the Petronas Towers in Kuala Lumpur, Malaysia is one of the world's tallest skyscraper. Each of the two slender towers is 88 stories high. They are joined together by a sky bridge at the 41st floor. Engineers tested the design studied the rock and soil make sure it would be safe and strong. Other engineers designed and easily move the special elevators to quickly people who work there. They finished in 1999. The towers are built of concrete, glass and steel, and they are another modern miracle of engineering.



# Petronas Tower

The Tower of Pisa- called the Leaning Tower- is an odd miracle of engineering. It was begun in 1173- almost 900 years ago- to show to the world the wealth and power of the people of Pisa. Sadly, the ground below was not solid. The tower began to tilt soon after it was begun. The builders stopped working for many years.

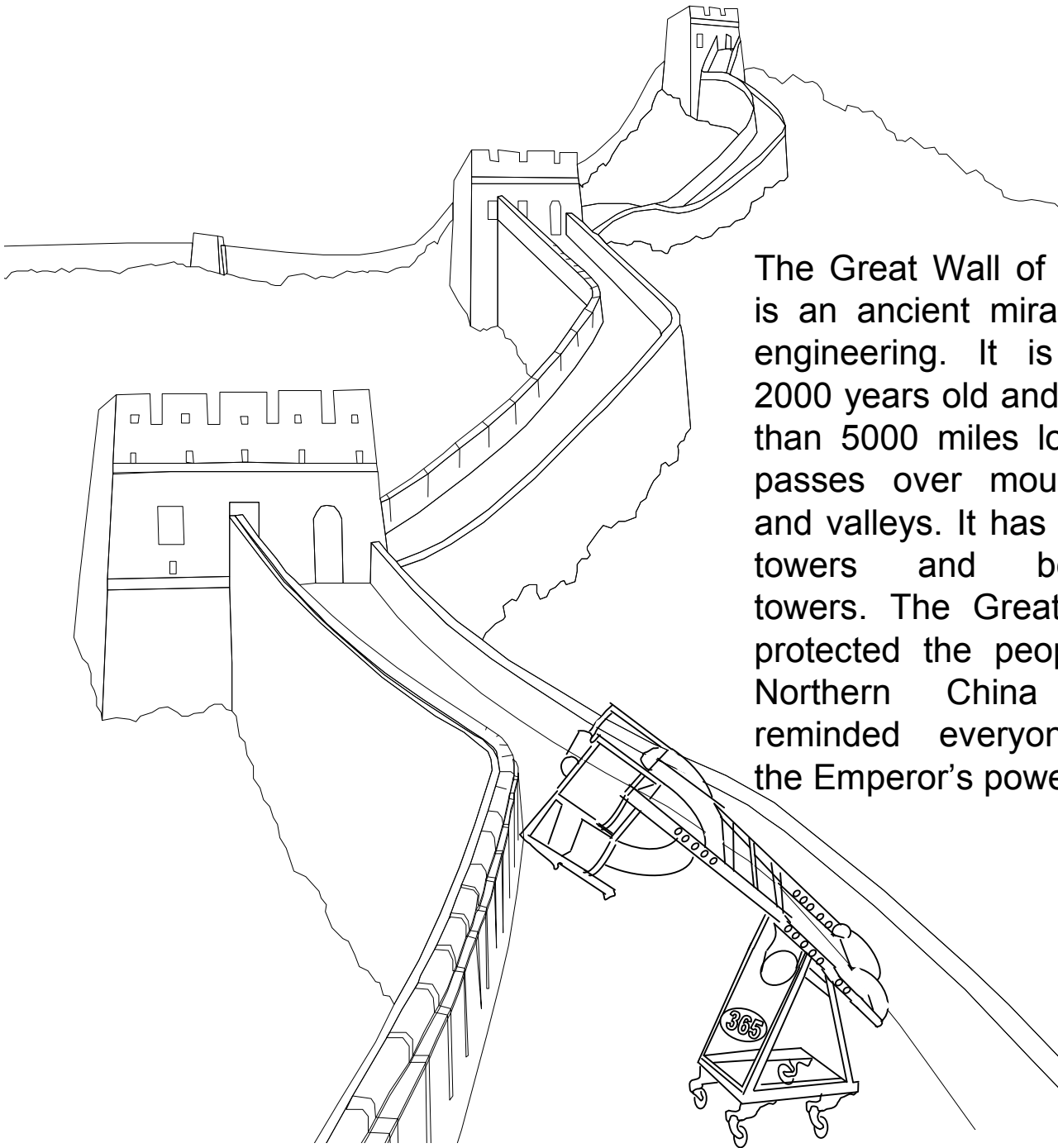
Little by little the tower was completed and over time it settled into the ground- still leaning! Today people (engineers) work to keep it strong so the tower will stand for all to see.



# Leaning Tower of Pisa



# Great Wall of China



The Great Wall of China is an ancient miracle of engineering. It is over 2000 years old and more than 5000 miles long! It passes over mountains and valleys. It has watch towers and beacon towers. The Great Wall protected the people of Northern China and reminded everyone of the Emperor's power.

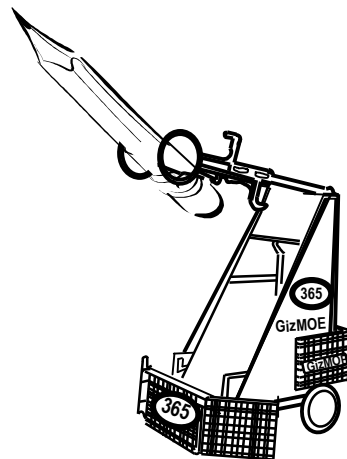
# Word Find Puzzle

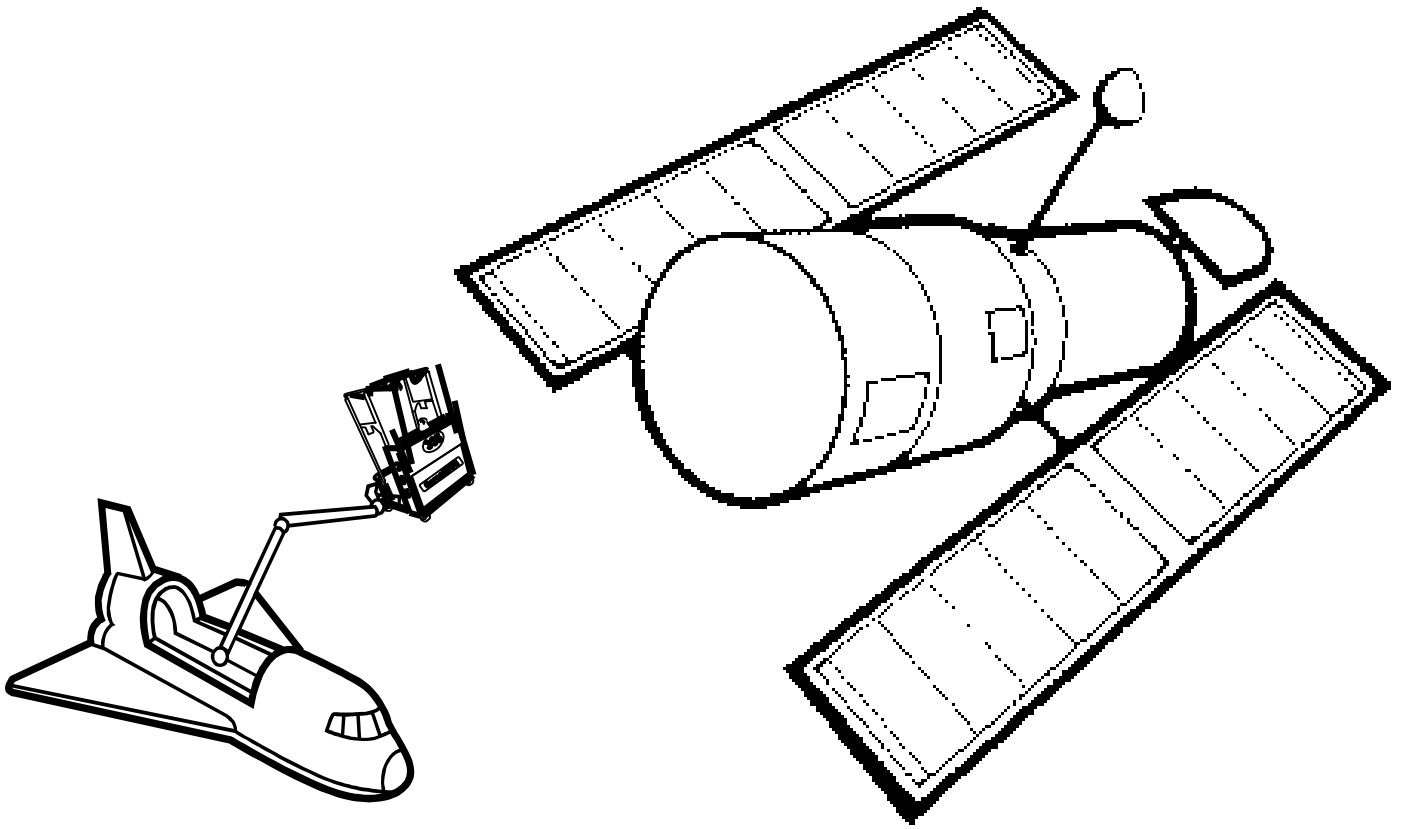
Find the Miracles of Engineering listed below the puzzle.  
They may be up, down, or diagonal, and may be forwards  
or backwards

S E S S Y M J Q H T X W U C O  
T S R S Z K Q C S N Q M J Q T  
E B U E V N R Q P E C W M S V  
M O R G W A P U Z M S S V D D  
E O M I N O R E G U G H O I G  
N M L E D T T D H N K I M J I  
V T O D L G J B A O H A F B Z  
T A E R G T E P B M R D I L M  
F D F P H Q T O L Y U G P A O  
M O E B A P K I P R M L T N E  
C H O Y D N B C L O W X C A H  
J N N W A L L T E I C S Q C K  
U B M M Y J K L E Q Z W R B D  
I V J I S Z F B X P C M Q O F  
N P Q W V A P X N Z X M P Q J

ARCH  
BIG MOE  
BRIDGE  
CANAL  
DAM  
GERONIMOE  
GIZMOE

GREAT  
LITTLE MOE  
MONUMENT  
PYRAMID  
TOWER  
WALL





Fill in the blanks with the words listed below to learn about how this Miracle of Engineering helps scientists explore deep into space :

power    telescope    space    stars    Earth's

The Hubble Space Telescope went into \_\_\_\_\_ aboard the Shuttle. It is a huge "eye in the sky" to help us study the heavens.

Above \_\_\_\_\_ hazy atmosphere, this space telescope sees planets and \_\_\_\_\_ more clearly. Scientists are able to see seven times farther into space than ever before.

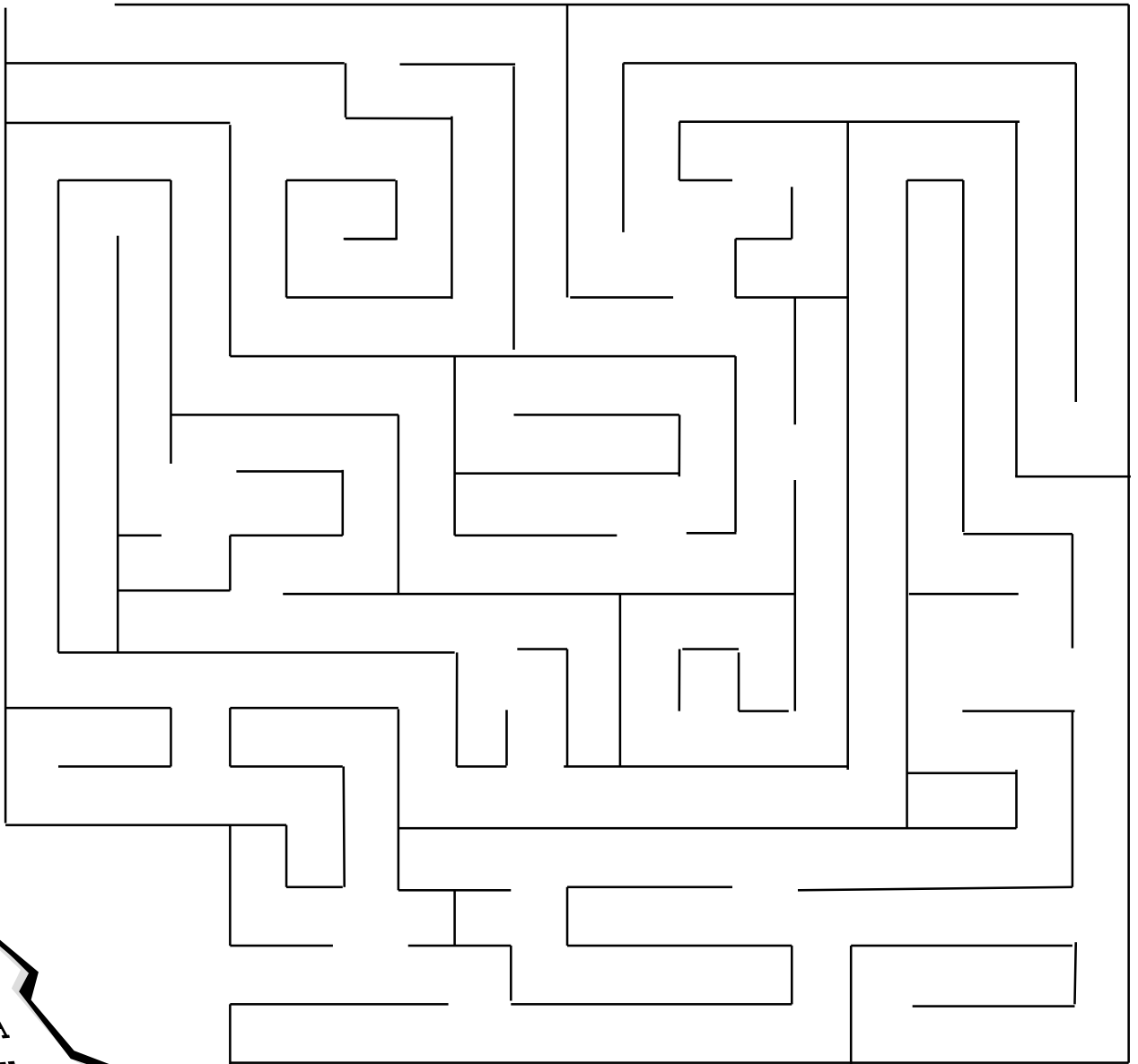
The Hubble Space Telescope is made up of the \_\_\_\_\_, instruments which relay what it sees to people on the ground, and wing-like solar panels which turn the Sun's rays into electrical \_\_\_\_\_ to run the telescope.

# Hubble Space Telescope



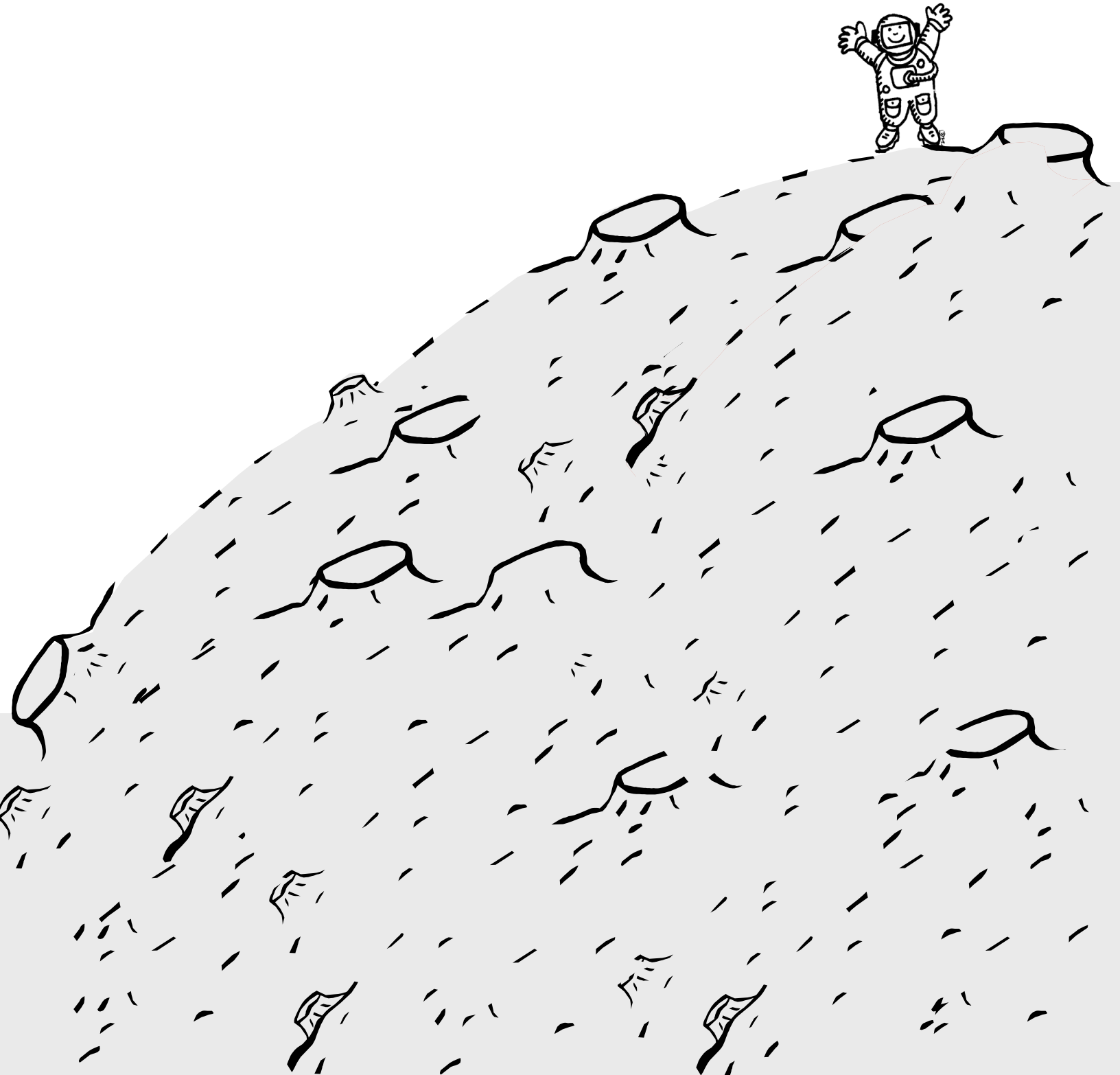
Help GizMOE find the way home to Delaware after travelling around the world!

Start Here

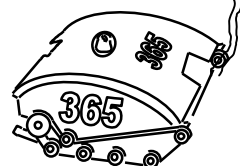
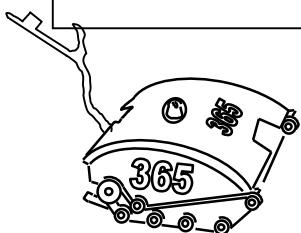
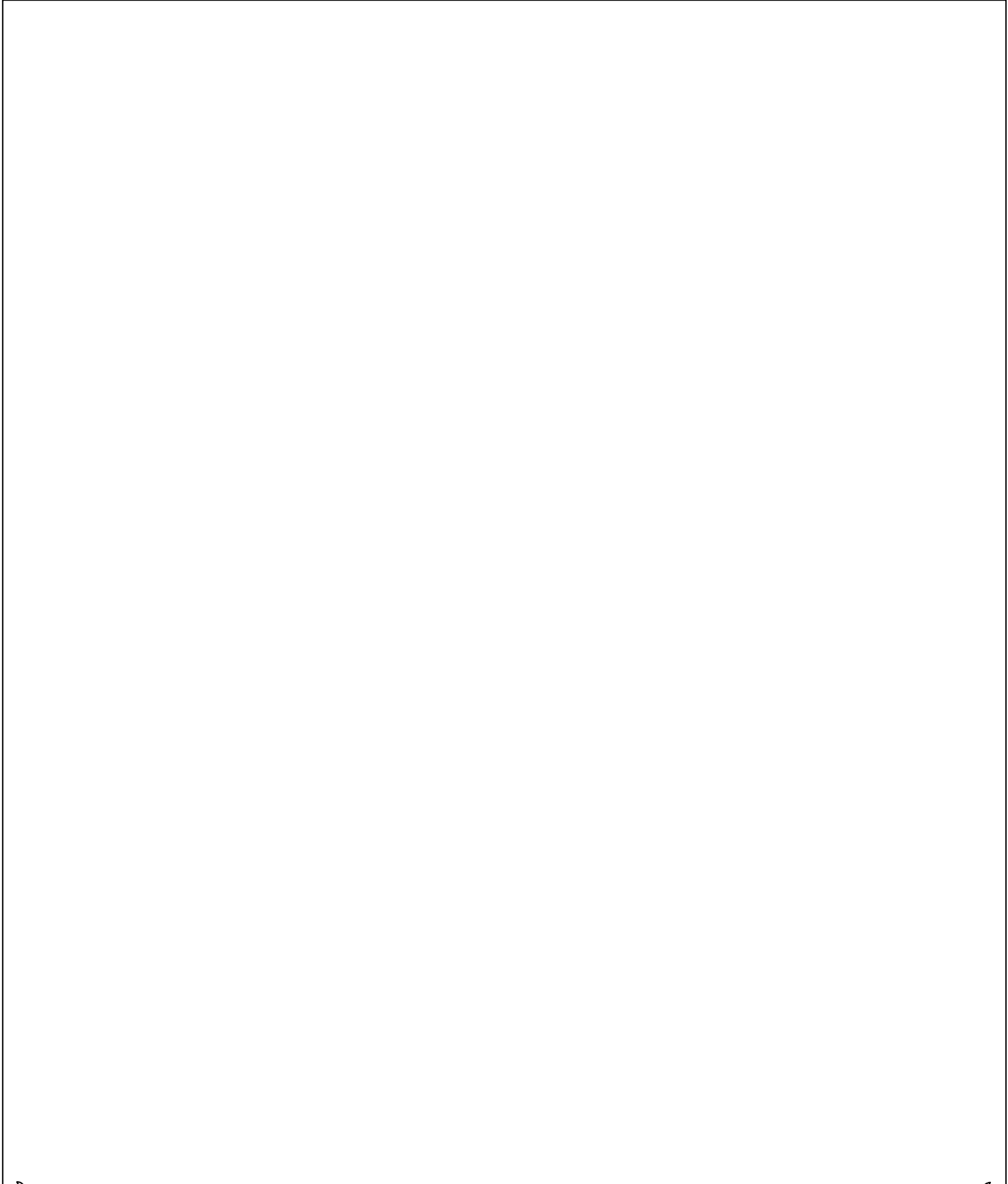




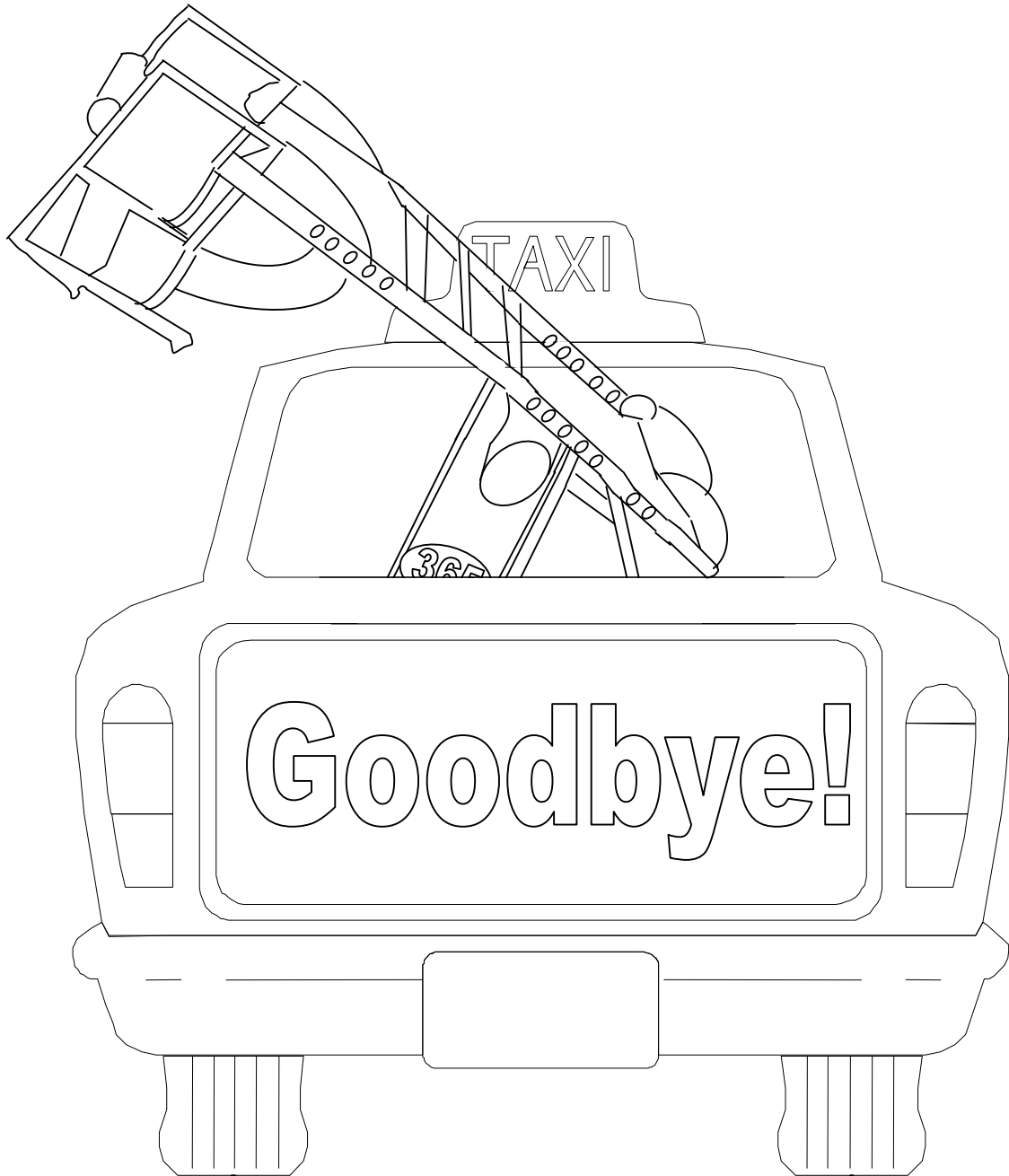
Now it's your turn!  
Can you imagine towers, bridges or tunnels  
in space? How will a city of the future look?



Design your own robot! What things can it help you do? How will it work? What will it need to do the job? Have fun!



"We're back home now, but keep looking. There are miracles of engineering all around you!"



# Who are we?

We are a group of students from 14 different high schools who enjoy the challenge of designing, building and shipping a robot within a 6-week time frame. This teaches us many things such as teamwork, various areas of engineering, computers and construction. Our team name is MOE<sup>SM</sup>, which stands for Miracle of Engineering, and our team number is 365. Our mission is to bring engineering and science into the lives of young people through robotics. We hope that through our books and literacy efforts we can carry our message to younger children that “science is cool for everyone from 3 to 365!”

We belong to a national organization called FIRST<sup>®</sup> – For Inspiration and Recognition of Science and Technology. ([www.usfirst.org](http://www.usfirst.org))

Middle school students can also participate in FIRST LEGO<sup>®</sup> League competitions. For more information please visit: <http://www.moe365.org/lego/FLLmain.html>

Or visit <http://www.usfirst.org/jrobotics/fllego.htm> for more information on all of FIRST LEGO<sup>®</sup> League.

For more information on our team, events and contact information please visit our award winning website: [www.moe365.org](http://www.moe365.org)

Other sites that you can visit to see how cool learning about science and technology can be are:

[www.howthingswork.com](http://www.howthingswork.com)